[incrementally spaced-in-frequency] carrier signals having equally spaced frequencies, [the carrier signals having a uniform frequency spacing between adjacent carrier signals that is a function of the pulse period,] and

a frequency selector coupled to the pulse generator, the frequency selector capable of selecting a plurality of the carrier signals with respect to at least one predetermined frequency band.

31. (Amended) A multicarrier-signal generator including:

a pulse generator capable of generating a plurality of periodic pulses [having a pulse period], the pulses having a frequency spectrum comprising a plurality of [incrementally spaced-in-frequency] carrier signals having equally spaced frequencies [a uniform] with a frequency spacing [between adjacent carrier signals] that is a function of the pulse period, [the pulse generator enabled to generate information-modulated pulses wherein the periodic pulses have amplitudes that are a function of the information signal, and]

a modulator coupled to the pulse generator, the modulator adapted to modulate at least one information signal onto at least one of the pulses, and

a frequency selector coupled to at least one of the modulator and the pulse generator, the frequency selector capable of selecting a plurality of the carrier signals with respect to at least one predetermined frequency band.

32. (Amended) A method of generating a multicarrier signal including:

providing for generating a plurality of information-modulated periodic pulses [having a pulse period] wherein the unmodulated pulses have a frequency spectrum comprising a plurality of [incrementally spaced-in-frequency] equally spaced carrier signals [having a uniform frequency spacing between adjacent carrier signals that is a function of the pulse period], the information-modulated pulses having [amplitudes] at least one of a set of signal characteristics that [are] is a function of [the] at least one information signal, the set of signal characteristics including amplitude, phase, time, and frequency, and

<u>providing for</u> selecting a plurality of the carrier signals with respect to at least one predetermined frequency band.

33. (Amended) A method of [transmitting] <u>generating</u> a multicarrier signal including:

<u>providing for</u> generating a plurality of periodic pulses [having a pulse period] wherein the pulses have a frequency spectrum comprising a plurality of [incrementally spaced-in-frequency] carrier signals having [a uniform frequency spacing between adjacent carrier signals, the uniform frequency spacing being a function of the pulse period] <u>equally spaced frequencies, and</u>

<u>providing for</u> modulating the pulses with [an] <u>at least one</u> information signal, the information-modulated pulses having [amplitudes] <u>at least one of a set of signal characteristics</u> that [are] is a function of the information signal, <u>the set of signal characteristics including amplitude, phase, and frequency.</u> [and

coupling the modulated pulses into a communication channel.]

Please add the following claims 34 to 97:

34. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a modulator adapted to modulate a plurality of the carrier signals with at least one information signal.

35. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a modulator adapted to modulate a plurality of the pulses with at least one information signal.

36. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a modulator adapted to modulate the carriers with information symbols having durations of up to the pulse period of the periodic pulses.

37. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a modulator, the modulator adapted to perform at least one of a set of modulations, including amplitude modulation, phase modulation, time-offset modulation, and frequency modulation.

38. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a coder and a modulator, the coder adapted to encode information signals, and the modulator adapted to modulate at least one coded information signal onto at least one of a set of signals, including the plurality of pulses and the plurality of carrier signals.

39. The multicarrier-signal generator recited in claim 30 wherein the pulse generator includes a carrier generator and a combiner, the carrier generator adapted to generate the plurality of carrier signals and the combiner adapted to combine the plurality of carrier signals to generate the pulses.

40. The multicarrier-signal generator recited in claim 30 wherein the pulse generator is adapted to generate pulses having carrier frequencies that include at least one of a set of frequencies, including intermediate frequencies, radio frequencies, and optical frequencies.

41. The multicarrier-signal generator recited in claim 30 wherein the pulse generator is adapted to produce a continuous pulse train.

42. The multicarrier-signal generator recited in claim 30 wherein the at least one of the pulse generator and the frequency selector is adapted to provide a predetermined frequency-versus-amplitude window to the carrier signals.

43. The multicarrier-signal generator recited in claim **42** wherein the at least one of the pulse generator and the frequency selector is adapted to provide a predetermined frequency-versus-amplitude window belonging to any of a set of tapered window functions, including Hanning, Hamming, Gaussian, triangular, Bartlett, Kaiser, and Chebyshev functions.

44. The multicarrier-signal generator recited in claim 30 wherein the pulse generator is adapted to provide an identical time-dependent frequency variation to each of the carriers.

45. The multicarrier-signal generator recited in claim 30 wherein the pulse generator is adapted to perform multiple access with respect to at least one of a set of multiple-access protocols, the set including frequency division multiple access, time division multiple access, and code division multiple access.

46. The multicarrier-signal generator recited in claim 30 wherein at least one of the pulse generator and the frequency selector is adapted to apply at least one set of coded time offsets to the carrier signals.

47. The multicarrier-signal generator recited in claim 30 wherein the frequency selector is adapted to select a predetermined set of carrier frequencies allocated to a particular user in a communication system.

48. The multicarrier-signal generator recited in claim 30 further including a coupler adapted to couple the carrier signals to a communication channel.

49. The multicarrier-signal generator recited in claim 30 wherein the coupler includes a plurality of transceiver elements.

50. The multicarrier-signal generator recited in claim 31 wherein the modulator is adapted to modulate the carrier signals with the at least one information signal.

51. The multicarrier-signal generator recited in claim 31 wherein the modulator is adapted to modulate one or more superpositions of the carrier signals with the at least one information signal.

52. The multicarrier-signal generator recited in claim 31 wherein the modulator is adapted to modulate the carriers with information symbols having durations of up to the pulse period of the periodic pulses.

53. The multicarrier-signal generator recited in claim 31 wherein the modulator is adapted to perform at least one of a set of modulation types, including amplitude modulation, phase modulation, time-offset modulation, and frequency modulation.

54. The multicarrier-signal generator recited in claim 31 further including a coder adapted to encode information signals prior to modulation, the modulator being adapted to modulate the coded information signals onto at least one of a set of signals, including the plurality of pulses and the plurality of carrier signals.

55. The multicarrier-signal generator recited in claim 31 wherein the pulse generator includes a carrier generator adapted to generate the plurality of carriers, and a combiner adapted to combine the plurality of carrier signals to generate the pulses.

56. The multicarrier-signal generator recited in claim 31 wherein the pulse generator is adapted to generate pulses having carrier signals that include at least one of a set of

frequencies, including intermediate frequencies, radio frequencies, and optical frequencies.

57. The multicarrier-signal generator recited in claim 31 wherein the pulse generator is adapted to produce a continuous train of pulses.

58. The multicarrier-signal generator recited in claim 31 wherein the at least one of the pulse generator and the frequency selector is adapted to provide a predetermined frequency-domain window to the carrier signals.

59. The multicarrier-signal generator recited in claim 31 wherein the at least one of the pulse generator and the frequency selector is adapted to provide a predetermined frequency-domain window belonging to any of a set of tapered window functions, including Hanning, Hamming, Gaussian, triangular, Bartlett, Kaiser, and Chebyshev functions.

60. The multicarrier-signal generator recited in claim 31 wherein the pulse generator is adapted to provide an identical time-dependent frequency variation to each of the carriers.

61. The multicarrier-signal generator recited in claim 31 wherein the pulse generator is adapted to perform multiple access with respect to at least one of a set of multiple-access protocols, the set including frequency division multiple access, time division multiple access, and code division multiple access.

62. The multicarrier-signal generator recited in claim 31 wherein at least one of the pulse generator and the frequency selector is adapted to apply at least one set of time offsets to the carrier signals.

63. The multicarrier-signal generator recited in claim 31 wherein the frequency selector is adapted to select a predetermined set of carrier frequencies allocated to a particular user in a communication system.

64. The multicarrier-signal generator recited in claim 31 further including a coupler adapted to couple the carrier signals to a communication channel.

65. The multicarrier-signal generator recited in claim 64 wherein the coupler includes a plurality of transceiver elements.

66. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes

providing for modulating each of the carrier signals with the at least one information signal.

67. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for modulating one or more superpositions of the carrier signals with the at least one information signal.

68. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for modulating the carriers with information symbols having durations of up to the pulse period of the periodic pulses.

69. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for performing at least one of a set of modulation types, including amplitude modulation, phase modulation, time-offset modulation, and frequency modulation.

70. The method of generating a multicarrier signal recited in claim 32 further including providing for encoding information signals and providing for modulating the coded information signals onto at least one of a set of signals, including the plurality of pulses and the plurality of carrier signals.

71. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for generating the plurality of carriers, and providing for combining the plurality of carrier signals to generate the pulses.

72. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for generating pulses having carrier signals that include at least one of a set of frequencies, including intermediate frequencies, radio frequencies, and optical frequencies.

73. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for generating a continuous train of pulses.

74. The method of generating a multicarrier signal recited in claim 32 wherein at least one of providing for generating a plurality of information-modulated periodic pulses and providing for selecting a plurality of the carrier signals includes providing for applying a predetermined frequency-domain window to the carrier signals.

75. The method of generating a multicarrier signal recited in claim 32 wherein at least one of providing for generating a plurality of information-modulated periodic pulses and providing for selecting a plurality of the carrier signals includes providing for applying a predetermined frequency-domain window to the carriers, the frequency-domain window belonging to any of a set of tapered window functions, including Hanning, Hamming, Gaussian, triangular, Bartlett, Kaiser, and Chebyshev functions.

76. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for applying an identical time-dependent frequency variation to each of the carriers.

77. The method of generating a multicarrier signal recited in claim 32 wherein providing for generating a plurality of information-modulated periodic pulses includes providing for performing multiple access with respect to at least one of a set of multiple-access protocols, the set including frequency division multiple access, time division multiple access, and code division multiple access.

78. The method of generating a multicarrier signal recited in claim 32 wherein at least one of providing for generating a plurality of information-modulated periodic pulses and providing for selecting a plurality of the carrier signals includes providing for applying at least one set of time offsets to the carrier signals.

79. The method of generating a multicarrier signal recited in claim 32 wherein providing for selecting a plurality of the carrier signals includes providing for selecting a predetermined set of carrier frequencies allocated to a particular user in a communication system.

80. The method of generating a multicarrier signal recited in claim 32 further including providing for coupling the carrier signals to a communication channel.

81. The method of generating a multicarrier signal recited in claim 80 wherein providing for coupling the carrier signals to a communication channel includes providing for processing the carrier signals by a plurality of transceiver elements.

82. The method of generating a multicarrier signal recited in claim 33 wherein providing for modulating the pulses with at least one information signal includes providing for modulating each of the carrier signals with the at least one information signal.

83. The method of generating a multicarrier signal recited in claim 33 providing for modulating the pulses with at least one information signal includes providing for modulating one or more superpositions of the carrier signals with the at least one information signal.

84. The method of generating a multicarrier signal recited in claim 33 wherein providing for modulating the pulses with at least one information signal includes providing for modulating the carriers with information symbols having durations of up to the pulse period of the periodic pulses.

85. The method of generating a multicarrier signal recited in claim 33 providing for modulating the pulses with at least one information signal includes providing for performing at least one of a set of modulation types, including amplitude modulation, phase modulation, time-offset modulation, and frequency modulation.

86. The method of generating a multicarrier signal recited in claim 33 further including providing for encoding the at least one information signal prior to providing for modulating the coded information signals onto at least one of a set of signals, including the plurality of pulses and the plurality of carrier signals.

87. The method of generating a multicarrier signal recited in claim 33 wherein providing for generating a plurality of periodic pulses includes providing for generating the plurality of carriers, and providing for combining the plurality of carrier signals to generate the pulses.

88. The method of generating a multicarrier signal recited in claim 33 wherein providing for generating a plurality of periodic pulses includes providing for generating pulses having carrier signals that include at least one of a set of frequencies, including intermediate frequencies, radio frequencies, and optical frequencies.

89. The method of generating a multicarrier signal recited in claim 33 wherein providing for generating a plurality of periodic pulses includes providing for generating a continuous train of pulses.

90. The method of generating a multicarrier signal recited in claim 33 wherein at least one of providing for generating a plurality of periodic pulses and providing for modulating the pulses includes providing for applying a predetermined frequency-domain window to the carrier signals.

91. The method of generating a multicarrier signal recited in claim 33 wherein at least one of providing for generating a plurality of periodic pulses and providing for modulating the pulses includes providing for applying a predetermined frequency-domain window to the carriers, the frequency-domain window belonging to any of a set of tapered window functions, including Hanning, Hamming, Gaussian, triangular, Bartlett, Kaiser, and Chebyshev functions.

92. The method of generating a multicarrier signal recited in claim 33 wherein providing for generating a plurality of periodic pulses includes providing for applying an identical time-dependent frequency variation to each of the carriers.

93. The method of generating a multicarrier signal recited in claim 33 wherein providing for generating a plurality of periodic pulses includes providing for performing multiple access with respect to at least one of a set of multiple-access protocols, the set including frequency division multiple access, time division multiple access, and code division multiple access.

94. The method of generating a multicarrier signal recited in claim 33 wherein at least one of providing for generating a plurality of information-modulated periodic pulses and providing for modulating the pulses includes providing for applying at least one set of time offsets to the carrier signals.

95. The method of generating a multicarrier signal recited in claim 33 further includes providing for selecting a predetermined set of carrier frequencies allocated to a particular user in a communication system.

96. The method of generating a multicarrier signal recited in claim 33 further including providing for coupling the carrier signals to a communication channel.